TAW

TRANSMITTAL FORM Filing Date	Under the Panerwork Reduction Act of 1995, no	U.S. P	PTO/SB/21 (09-04) Approved for use through 07/31/2006. OMB 0651-0031 ⁻ latent and Trademark Office; U.S. DEPARTMENT OF COMMERCE ection of information unless it displays a valid OMB control number.		
FINAL FORM FORM First Named Inventor Huy M. Nguyen Art Unit 2s19 Examiner Name Examiner Cho Attorney Docket Number Ra311 (RA311.P.US) Fee Transmittal Form Fee Attached Check # 1921 Amendment/Reply Amendment/Reply After Final After Final After Final Express Abandonment Request Express Abandonment Request Express Abandonment Request Express Abandonment Request Certified Copy of Priority Document(s) Request for Refund Certified Copy of Priority Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts/ Incom	100				
Art Unit 2319 Examiner Name Examiner Cho Attorney Docket Number Ra311 (RA311.P.US) Total Number of Pages in This Submission 5 Attorney Docket Number Ra311 (RA311.P.US) Fee Transmittal Form	TRANSMITTAL	Filing Date	09/08/2003		
Examiner Name Examiner Cho	FORM	First Named Inventor	Huy M. Nguyen		
Total Number of Pages in This Submission S		Art Unit	2819		
Signature Pages in This Submission S	(to be used for all correspondence after initial filin		Examiner Cho		
After Allowance Communication to TC Check	Total Number of Pages in This Submission 5	Attorney Docket Number	RA311 (RA311.P.US)		
After Allowance Communication to TC Check		ENCLOSURES (Check all)	that annual		
Affidavits/dectaration(s) Extension of Time Request Express Abandonment Request Information Disclosure Statement Certified Copy of Priority Document(s) Reply to Missing Parts Incomplete Application Reply to Missing Parts Under 37 CFR 1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm Name Silicon Edge Law Group LLP, Arthur J. Behiel Date CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence by addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature Printed name Arthur J. Behiel Date CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence by being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class medi in any envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Fee Attached Check # 1921 Amendment/Reply	Licensing-related Papers Petition Petition to Convert to a	Appeal Communication to Board of Appeals and Interferences Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)		
Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53 SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT Firm Name Silicon Edge Law Group LLP, Arthur J. Behiel, Patent Attorney Signature Printed name Arthur J. Behiel Date CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Affidavits/declaration(s)				
Firm Name Silicon Edge Law Group LLP, Arthur J. Behiel, Patent Attorney Signature Printed name Arthur J. Behiel Date CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53		RNEY, OR AGENT		
Printed name Arthur J. Behiel Date Reg. No. 39,603 CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Firm Name		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Printed name Arthur J. Behiel Date Reg. No. 39,603 CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature		Activity 3. Berlief, Patent Attorney			
CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Printed name				
CERTIFICATE OF TRANSMISSION/MAILING I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature	Date 1/5/2005	R	Reg. No. 39,603		
The late of the la	I hereby certify that this correspondence is bein sufficient postage as first class mail in an envelopment date shown below:	g facsimile transmitted to the USPTC	O or deposited with the United States Postal Service with		
Date 1/1/2	Signature	\sim			
Typed or printed name Laurie Moreno Date 1/5/85	Typed or printed name Laurie Moreno		Date 1/5/05		

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/17 (12-04v2)

Approved for use through 07/31/2006, OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE work Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004. ees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180.00

Complete if Known					
Application Number	10/657,605				
Filing Date	09 08 2003				
First Named Inventor	Huy M. Nguyen				
Examiner Name	Examiner scho				
Art Unit	2819				
Attorney Docket No.	RASH ERASH P. U.S.				

METHOD OF PAYMENT	(check all	that apply)	_				
Check Credit Card Money Order None Other (please identify): Deposit Account Deposit Account Number: Deposit Account Name: For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)							
Charge fee(s) i					e fee(s) indic	ated below, exc	ept for the filing fee
under 37 CFR	1.16 and 1.	s) or underpayme 17	` '		t any overpay		
WARNING: Information on this information and authorization of	form may be on PTO-2038.	come public. Credi	t card inform	ation should n	ot be included	on this form. Pro	ovide credit card
FEE CALCULATION							_
1. BASIC FILING, SEAR	FILING F		SEARCH			TION FEES	
Application Type	Fee (\$)	Fee (\$)	Fee (\$)	mall Entity Fee (\$)	Fee (\$)	mall Entity Fee (\$)	Fees Paid (\$)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	•
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	
2. EXCESS CLAIM FEES Fee Description Each claim over 20 (in Each independent claim Multiple dependent claim	cluding Re m over 3 (i		ıes)			Fee (\$) 50 200 360	Small Entity Fee (\$) 25 100 180
	Extra Claim	s Fee (\$)	Fee Pa	id (\$)			pendent Claims
		_ ^	.=			Fee (\$)	Fee Paid (\$)
HP = highest number of total of Indep. Claims - 3 or HP =	Extra Claim	. •	Fee Pa	id (\$)			
HP = highest number of indepe	endent daims	paid for, if greater th	an 3.				
3. APPLICATION SIZE FEE If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFP 1.52(a)) the application size for the in \$250 (\$125 for every) parity for each additional 50							
listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(c)							
sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). Total Sheets Extra Sheets Number of each additional 50 or fraction thereof (round up to a whole number) x Eee (\$) Fee Paid (\$)							
4. OTHER FEE(S) Non-English Specifica	ation, \$13	30 fee (no small	entity dis	count)			Fees Paid (\$)
Other (e.g., late filing	surcharge)	1806-	Subm	ission	of ar	291	\$180.00

SUBMITTED BY Registration No. 39 Telephone 925.621.211 Signature (Attorney/Agent)

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Huy M. Nguyen, Vijay Gadde and Benedict Lau

Assignee: Rambus Inc.

Title: "Calibration Methods and Circuits for Optimized On-Die

Termination"

Serial No.: 10/657,605 Filed: September 08, 2003

Examiner: Cho Tel: Unknown

Docket No.: RA311 Art Unit: 2819

(RA311.P.US)

Mail Stop Commissioner For Patents P.O. Box 1450 Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56, §1.97 and §1.98, Applicant brings the 10 documents listed on the enclosed forms PTO/SB/08A (1 page) and PTO/SB/08B (1 page) to the Examiner's attention in the above-captioned application. Citation of the listed documents shall not be construed as:

- 1. an admission that the documents are necessarily prior art with respect to the instant application;
- 2. a representation that a search has been made; or
- 3. an admission that the information cited is, or is considered to be, material to patentability as defined in §1.56(b).

01/11/2005 EAREGAY1 00000021 10657605

01 FC:1806

180.00 OP

I hereby certify that this correspondence is being deposited with the United States Postal Service via first class mail and is addressed to: Mail Stop, Commissioner for Patents, P.O. Box 1450,

Alexandria, VA 22313-1450.

Laurie Moreno

Respectfully submitted,

Arthur J. Behiel
Attorney for Applicants

Reg. No. 39,603

PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE perwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

itute for form 1449/PTO

Sheet 1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known				
Application Number	10/657,605			
Filing Date	September 08, 2003			
First Named Inventor	Huy M. Nguyen			
Art Unit	2819			
Examiner Name	Examiner Cho			
Attorney Docket Number	RA311 (RA311.P.US)			

			U. S. PATEN	DOCUMENTS	
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ^{2 (if known)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	^{US-} 5,396,028	03/07/1995	Tomassetti	
	2	^{US-} 5,298,800	03/29/1994	Dunlop et al.	
	3	^{US-} 5,680,060	10/21/1997	Banniza et al.	
		US-			
		US-		70.40	
		US-			
		US-			
		US-	1		
		US-			
		US-			

	FOREIGN PATENT DOCUMENTS							
Examiner Initials*	, and the second	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages					
	ļ	Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	T ⁶		
	ļ							
	ļ							
						L		
	ļ							
	ļ					L		

Examiner		Date	
Signature		Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND** TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE aperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known Substitute for form 1449/PTO **Application Number** 10/657,605 INFORMATION DISCLOSURE Filing Date September 08, 2003 STATEMENT BY APPLICANT **First Named Inventor** Huy M. Nguyen Art Unit 2819 (Use as many sheets as necessary) **Examiner Name** Examiner Cho Attorney Docket Number Sheet of 2 RA311 (RA311.P.US)

Examiner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of	
Initials*	No.1	the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	4	GABARA, THADDEUS J. et al. "A 200 MHz 100K ECL Output Buffer for CMOS ASICs." 1990 IEEE. Pages 4.	
	5	GABARA, THADDEUS J., "On-Chip Terminating Resistors for High Speed ECL-CMOS Interfaces." February 1992. IEEE. Pages 292-295.	
	6	KNIGHT, THOMAS F. JR., "A Self-Terminating Low-Voltage Swing CMOS Output Driver." IEEE Journal of Solid-State Circuits, Vol. 23, No. 2, April 1988. pgs. 457-464.	
	7	GABARA, THADDEUS J., "Digitally Adjustable Resistors in CMOS for High-Performance Applications." IEEE Journal of Solid-State Circuits, Vol. 27, No. 8, Aug. 1992. Pgs. 1176-1185	٠.
	8	BABCOCK, J.A., "Precision Electrical Trimming of Very Low TCR Poly-SiGe Resisitors." IEEE Electron Device Letters, Vol. 21, No. 6, June 2000. pgs. 283-285.	
	9	SHAH, SUNAY et al., "A Temperature Independent Trimmable Current Source." Department of Engineering Science, University of Oxford. ISCAS 2002. 4 pages.	
:	10	KIM, SU-CHUL, "Programmable Digital On-Chip Terminator." ITC-CSCC, 2002. 4 pages.	

Examiner	Date	
Signature	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.